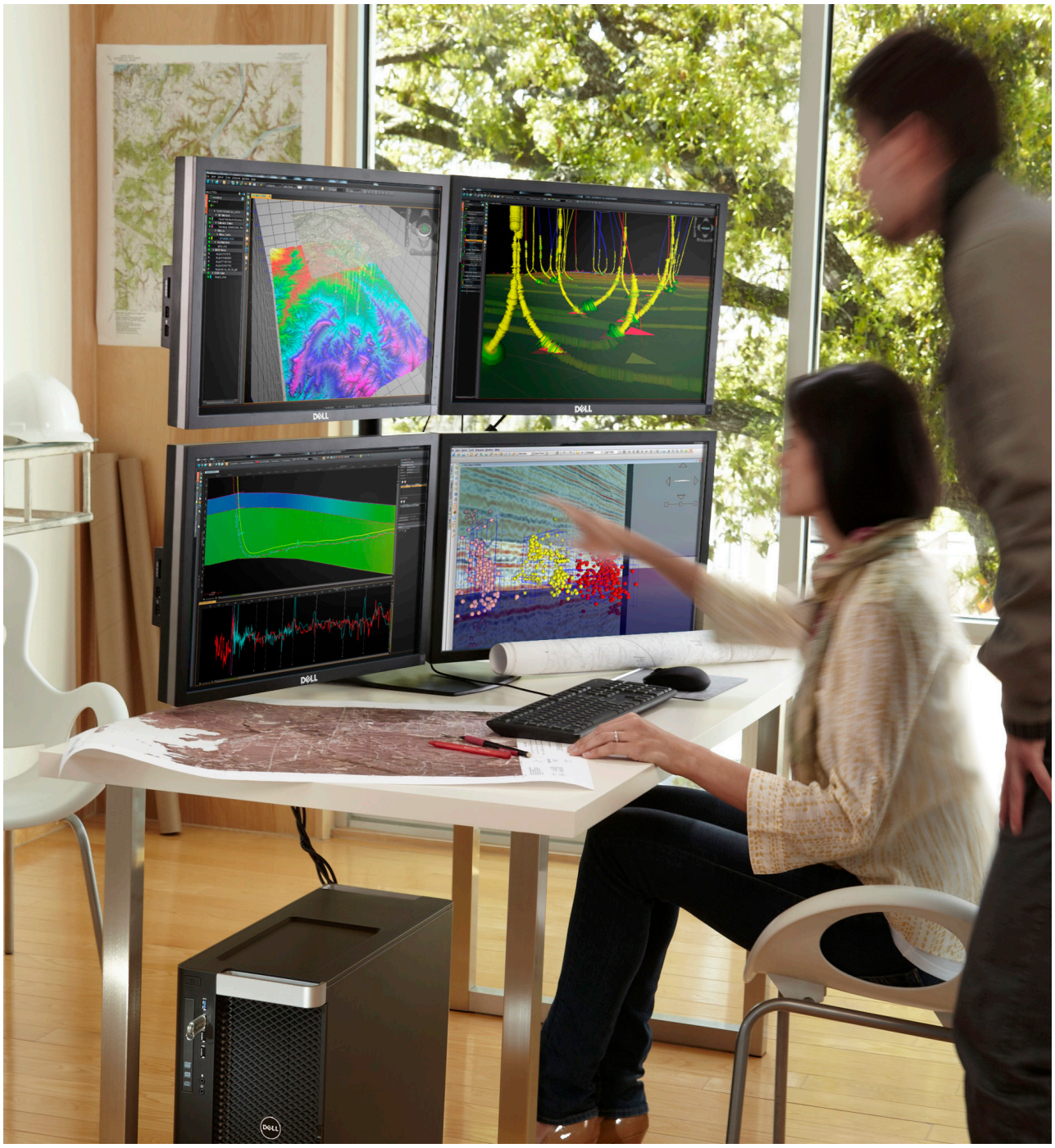
Dell Precision™ Workstations

Work at the speed of thought

Tower: T7610 | T5610 | T3610 | T1700
Mobile: M6800 | M4800
Rack: R7610



Screen images courtesy of Landmark Software and Services

From office computing to mobile and remote solutions,
Dell's broad workstation line-up is equipped to meet your needs.

Dell.com/precision
September 2013

The Essence of Dell Precision

Dell Precision is designed for professionals with the most mission critical and demanding needs. Our workstation-class products offer superb performance, innovative smart design and ISV certified dependability to maximize your productivity and reliability.

Performance

Power through resource-exhausting and graphics-intensive engineering and analysis workloads with superb performance precisely tuned to demanding user needs.

- Dell Precision offers the world's most powerful mobile workstation, tower workstation and rack workstation
- Massive memory with up to 512GB[1,7] for desktops and up to 32GB[1,7] for mobiles
- Cutting-edge, workstation-class graphics with the latest NVIDIA Quadro® and AMD FirePro™ technologies
- Dell Precision Performance Optimizer is the world's first automated workstation performance tool

Smart Design

Delivering innovative and award-winning workstation design that allows professionals to work smarter.

- Award winning, best in class tower chassis design offers a straightforward, clutter-free interior providing easy access to components for superior serviceability
- The only mainstream tower workstations with externally accessible, tool-free power supply
- Dell Precision T7610 is the only globally available tower workstation with tool-free front accessible hard drives
- Dell Precision T1700 offers the smallest and lightest workstation chassis in its class
- Mobile workstations that are 100% BFR/PVC free[8], ENERGY STAR qualified and EPEAT registered[9] to offer you our most environmentally responsible mobile Dell Precision products yet
- Mobile workstations with flexible storage options including an easy eject hard drive, minicard and SSD storage devices and optional RAID 0/1/5 on both the M4800 & M6800.

Dependability

Reliable workstations tested, certified and supported for maximum dependability and uptime.

- ISV certified for professional-grade software
- Secure, manageable and serviceable workstations that seamlessly integrate into your environment
- Dell Precision M4800 and M6800 are the world's most secure mobile workstations. Only Dell offers comprehensive encryption, advanced authentication, and leading-edge malware prevention from a single source.
- Confidently plan future product roll-outs with long lifecycles, transitions and ImageWatch™ for an advanced look at software and hardware changes
- Three-year Limited Hardware Warranty[3] standard on all Dell Precision workstations except the Dell Precision T1700 which offers a one year Limited Hardware Warranty[3] standard

Service and support

While Dell Precision workstations are designed for peak performance from day one, our advanced service and support options can help you get up and running quickly.

- **Dell Configuration Services**[4] incorporates hardware, images, applications, peripherals and documents with your system as it's being built to help simplify and speed up deployment while improving hardware consistency and compatibility.
- **Choose Dell's premium support service, ProSupport,**[4] for 24/7 direct telephone access to advanced-level technicians based in your region to end downtime and resolve problems quickly.
- **ProSupport's Collaborative Support**[4] **feature** provides assistance if you have a problem with non-Dell hardware or software. We act as a single point of contact to help resolve issues by leveraging our relationships with select third-party vendors.

Technology

Dell Precision—the continuous evolution of technology

Boost your productivity by integrating the latest industry-standard technologies into a highly reliable platform.

Processors

The central processing unit, or CPU, initiates the critical tasks that make your Dell Precision perform. You should choose a processor with enough performance to meet your long-term business needs. Bandwidth, clock speed and the number of cores in the processor all help determine processor performance. Dell Precision workstations support a wide array of processor options including 4th generation Intel® Core™ processors and Intel® Xeon® processors featuring Intel® Turbo Boost Technology; a processing technology that delivers optimal performance where it is needed most, when you need it most.

Memory

Random Access Memory (RAM) temporarily stores information from your operating system, applications and data in current use. This gives your processor easy access to the critical information that make your programs run.

The amount of RAM you have helps determine how many programs can be executed at one time and how much data can be readily available to a program. It also helps determine how quickly your applications perform and how many applications you can easily toggle between.

Many Dell Precision workstations can use ECC memory. ECC (Error Correcting Code) memory is a feature for high-end systems that detects and reports memory errors that can cause system crashes or error faults. This is important for highly detailed tasks where accuracy and stability are of the utmost importance. Non-ECC memory does not detect and report memory errors.

RDIMM memory is the type of memory available on our dual processor workstations and, similar to ECC memory, can provide additional data protection and reliability. RDIMM memory, or registered memory, has a register used as a pass-through for address and command signals. This allows workstations to support more RDIMMs per channel. RDIMMs consume more power but are available in larger capacities and higher ranks allowing for extremely large memory configurations up to 512GB[1,7] on select Dell Precision workstations.

Select Dell Precision tower workstations also offer Dell Reliable Memory Technology. A Dell exclusive, patented technology that maximizes uptime by eliminating virtually all memory errors so Dell workstations can get more reliable over time, providing a stable and reliable platform you can trust.

Storage

Dell Precision workstations support a wide range of performance options including solid state drives, SATA drives, SAS drives PCIe SSD storage and RAID configurations. Solid state drives provide increased performance and reliability in mobile and desktop systems. SAS drives are an excellent option for increased performance over SATA drives for larger workstation storage needs. Dell Precision is designed to be expandable to adapt to your needs.

For improved data protection and performance, our workstations offer a variety of RAID levels; from striping to mirroring to parity, Dell offers a RAID solution to meet your specific storage needs.

Graphics

Dell Precision workstations offer a wide selection of graphics cards, many of which are Independent Software Vendor (ISV) certified. Solutions from AMD, Intel® and NVIDIA can satisfy requirements ranging from breakneck 3D performance and OpenGL to affordable 2D performance. Dell continually evaluates the newest graphics technologies to help ensure the most relevant graphics cards are selected for qualification, certification and factory installation in Dell Precision workstations.

Dell Precision Tower Workstations

Dell Precision **T7610 / T5610 / T3610 / T1700**

Exceptional performance, unwavering dependability, extraordinary execution and outstanding scalability

Enjoy blazing fast, energy-efficient performance even as you tackle the largest data sets and the most complex multi-threaded applications:

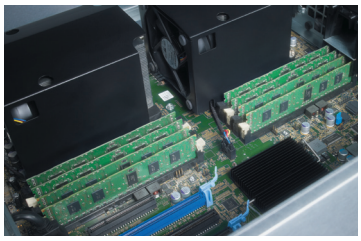
- Up to two powerful Intel® processors for a maximum of 24 cores of computing power
- Up to 512GB[1, 7] of advanced error correcting memory
- Blazing fast SATA, SAS or PCIe SSD storage
- A myriad of RAID choices
- Support for up to three double-wide or four single-wide professional-grade graphics cards
- Select tower workstations support NVIDIA Tesla GPGPU compute solutions for high-performance computing

Rock solid dependability

Dell understands that downtime is costly. That is why we strive to provide a workstation you can depend on day-in and day-out. Should a problem arise, Dell has the expertise and services to minimize your downtime and get you back up and running quickly.

ISV Certification

Dell partners with leading independent software vendors (ISVs) and technology partners to certify system compatibility. This means hundreds of engineering man-hours and rigorous testing that have been poured into Dell Precision workstations to optimize performance and reliability with leading industry applications. The result is a fine-tuned machine, running at peak performance, bringing you a level of confidence you trust and value.



Dell Reliable Memory Technology (RMT)

Dell patented code programmed at the BIOS level that eliminates virtually all memory errors. RMT extends the capability of ECC memory by detecting the location of the corrected memory error and prevents the system from writing to that spot again following a reboot. Available on the T7610, T5610 and T3610 (when equipped with ECC memory), RMT increases the reliability of the workstations and eliminates the need for extensive full memory tests, IT support calls and memory DIMM replacement.

Multiple monitor support

Expand your productivity with multi-monitor capability. Every Dell Precision tower supports a minimum of two monitors and a maximum of eight monitors (excludes T1700), which can provide additional screen real estate for additional work content.

Smart design

Our best-in-class chassis design offers a straightforward, clutter-free interior providing easy access to components for superior serviceability. The Dell Precision T7610, T5610 and T3610 are the only mainstream tower workstations to offer an externally accessible, tool free power supply. Plus, our Dell Precision T1700, now available in two sizes, is the smallest and lightest entry level workstation in its class.

Dell Precision Tower Workstations

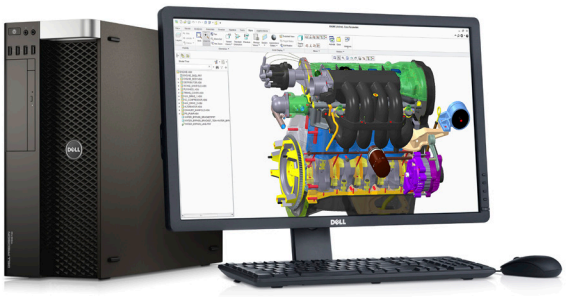
Dell Precision **T7610 / T5610 / T3610 / T1700**

Dell Precision T7610

Our most powerful and expandable tower in a best-in-class chassis with front accessible hard drives and externally accessible tool free power supply.

- One or two - Intel® Xeon® processor E5-2600 v2 Product Family
- Up to 256GB[1,7] ECC memory (up to 512GB coming soon)
- Four 3.5" or eight 2.5" SATA or SAS drives; optional PCIe SSD
- RAID 0/1/5/10 - 6Gb/s SATA/SAS controller options
- Complete range of NVIDIA® and AMD graphics options
- One or two NVIDIA® Tesla® GPUs optional

Great for: Work environments that demand the utmost in computational power such as financial / scientific analysis of massive data sets and advanced engineering / simulation workloads.

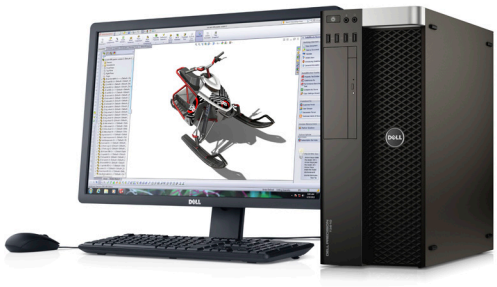


Dell Precision T5610

Powerful and reliable dual socket tower in a best-in-class chassis with dual aluminum handles and externally accessible tool free power supply.

- One or two - Intel® Xeon® processor E5-2600 v2 family
- Up to 128GB[1,7] ECC memory
- Two 3.5" or four 2.5" SATA or SAS drives; optional PCIe SSD
- RAID 0/1/5/10 - 6Gb/s SATA or 6Gb/s SATA/SAS controller options
- Complete range of NVIDIA® and AMD graphics options
- Optional NVIDIA Tesla GPU

Great for: Space-constrained environments that need substantial compute capability including financial and scientific analysis, professional engineering and complex 3D modeling.



Dell Precision T3610

Mid-range tower workstation with an excellent balance of performance and scalability in a best-in-class tool-free chassis.

- One - Intel® Xeon® processor E5-1600 v2 series
- Up to 128GB[1,7] of ECC or Non-ECC memory
- Two 3.5" of four 2.5" SATA or SAS hard drives; optional PCIe SSD
- RAID 0/1/5/10 - 6Gb/s SATA or 6Gb/s SATA/SAS controller options
- Broad range of NVIDIA® and AMD graphics options

Great for: Powerful performance for exacting workstation workloads such as mainstream 3D, advanced engineering, digital content creation, CAD/CAM, and design environments.

Dell Precision T1700

Our entry-level tower offers two chassis sizes both with certified performance for superb productivity without breaking your budget.

- One - Intel® Xeon® processor E3-1200 v3 Family or 4th generation Intel® Core™ i7 processor or Intel® Core™ i5 processor; 4th generation Intel Core i3 processor coming soon
- Up to 32GB[1,7] of ECC or 16GB[1,7] of Non-ECC memory
- Two 3.5" of four 2.5" SATA hard drives
- SATA RAID 0/1/5/10 standard
- AMD, NVIDIA or integrated Intel® graphics[2]

Great for: Demanding workstation tasks such as professional grade 2D and entry-level 3D applications that push beyond the capabilities of a standard desktop.

Mobile Workstations

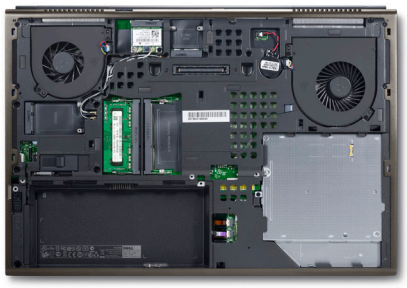
Dell Precision M6800 and M4800

The world's most powerful mobile workstations

Whether you're at your desk, in a meeting or consulting with a client, Dell mobile workstations have what it takes to power you through a whole range of business settings.

Superb Performance

Laptop mobility and workstation-class performance with:



- 4th Generation Intel® Core™ processors
- AMD FirePro and NVIDIA Quadro graphics options
- Large drive options, Mini Card and RAID options, plus the flexibility to add even more storage with an optional optical bay module.
- Quiet-running dual fans can help increase component longevity and extend battery life.

Innovative Smart Design

Work smarter with state-of-the-art design and intuitive purpose driven features.

- Docking is easy and convenient; the M4800 and M6800 are compatible with existing E-family docking solutions and optional WiGig docking
- Environmentally responsible - 100% BFR/PVC free[8], ENERGY STAR qualified and EPEAT registered[9]
- Astonishing display options: the M4800 offers up to a QHD+ (3200 x 1800 pixels) display while the M6800 offers up to FHD (1920 x 1080) resolution with 10 finger simultaneous touch.

Certified Dependability

Designed for professionals who demand strength and reliability, the M4800 and M6800 offer:

- All day battery life and beyond; optional secondary slice battery and NVIDIA® Optimus™ or AMD Enduro™
- Light yet strong magnesium alloy structure clad in rigid, annodized aluminum. MIL-STD-810G tested for extreme temperatures, humidity, vibration, dust, altitude and shock
- Robust security options: Dell Data Protection options and FIPS certified fingerprint readers and self encrypting drives.
- Quickly remove your primary hard drive with the tool free easy eject drive bay

Dell Precision Workstations

Dell Precision **M6800 / M6800 Covet Edition / M4800 / R7610**

Mobile

Dell Precision M6800 & M6800 Covet Edition

The Dell Precision M6800 is the world's most powerful 17" mobile workstation, with the performance, battery life and storage for demanding work environments.

4th generation Intel® Core™ i5 and i7 processors, up to Intel® Core™ i7 processor Extreme Edition	Up to 32GB[1,7] 1600MHz memory or up to 16GB[1,7] 1866MHz memory Four DIMM slots
Up to four storage devices: one 2.5" drive in easy eject drive bay, one 2.5" drive in internal bay, one 2.5" in optical bay caddy[6], one solid state minicard	RAID 0/1/5 support
AMD and NVIDIA discrete graphics options	17.3" display options: HD+, FHD and FHD with 10 finger multi-touch

Great for: specialists who need workstation performance for demanding professional-grade applications in a desktop-replacement mobile platform.

Dell Precision M4800

Dell Precision M4800 is the world's most powerful 15" mobile workstation, with the performance, battery life and storage for demanding work environments.

4th generation Intel® Core™ i5 and i7 processors, up to Intel® Core™ i7 processor Extreme Edition	Up to 32GB[1,7] 1600MHz memory or up to 16GB[1,7] 1866MHz memory Four DIMM slots
Up to three storage devices: one 2.5" drive in easy eject drive bay; one 2.5" drive in optical bay caddy[6]; one solid state minicard	RAID 0/1/5 support
AMD and NVIDIA discrete graphics options	15.6" display options: HD, FHD and QHD+ resolutions

Great for: professionals in need of processing power and graphics performance for demanding jobs, plus dependability and long battery life for mobility.

Rack

Dell Precision R7610

Superb, world-class rack workstation for 1:1 or virtualized environments with uncompromised performance, ISV certification and responsive remote access.

One or two Intel® Xeon® processor E5-2600 v2 family	Up to 256GB[1,7] 1600MHz ECC memory (512GB coming soon) 16 DIMM slots
Up to four AMD or NVIDIA discrete graphics cards optional	Up to two NVIDIA Tesla GPGPUs optional
Up to six 2.5" SATA or SAS drives	Optional RAID 0/1/5/10

Great for: users who need ISV-certified workstation performance in a 2U rack chassis; businesses that need to centralize data in a clean, secure environment; organizations who want to utilize workstation virtualization for up to four users.

Rack Workstation

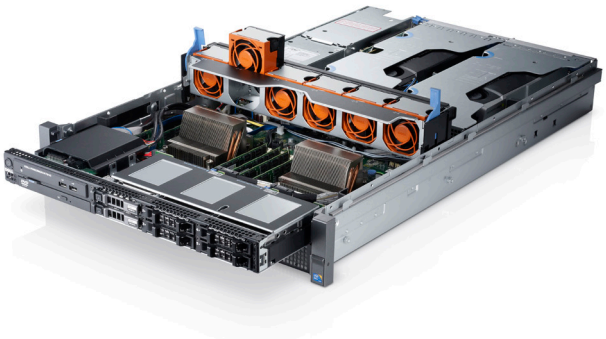
Dell Precision R7610

The world's most powerful rack workstation offers uncompromising performance for 1:1 or virtualized environments

Why a rack? Because your work demands it.

When the job calls for more security and flexibility than a standard tower or mobile workstation can provide, the Dell Precision R7610 rack workstation delivers.

- For organizations where security is top priority, you need more than a lock and key. The Dell Precision R7610 can help safely house your intellectual property by keeping it contained in the data center.
- Does your work involve inhospitable, hazardous or extremely remote environments? The Dell Precision R7610 can provide workstation-class performance remotely while your employees stay productive and comfortable at their own workspaces.
- For end-users who work in space-constrained areas or temperature- or noise-sensitive environments, the P25 zero client is small and runs cool and quiet.
- Boost productivity and help improve ROI among offsite contractors, rotating workforces and geographically diverse employees.
- Extend ROI with workstation virtualization for up to four users via GPU pass-through.



Flexible deployment for 1:1 or virtualized environments

You'll discover a great deal of deployment flexibility in the rack-based Dell Precision R7610:

- For maximum performance, deploy it as a one-to-one workstation solution using the optional Wyse P25 zero client device. This solution uses Teradici™ Tera2 hardware-based compression and the PCoIP protocol for remote connectivity providing a superb, responsive workstation experience.
- For virtualized Citrix environments, you can extend your productivity and security benefits to multiple users by deploying this workstation as a one-to-three or one-to-four GPU pass-through solution.
- Later this year, you can expect even greater scalability and return on investment with one-to-many virtualized deployment capability.

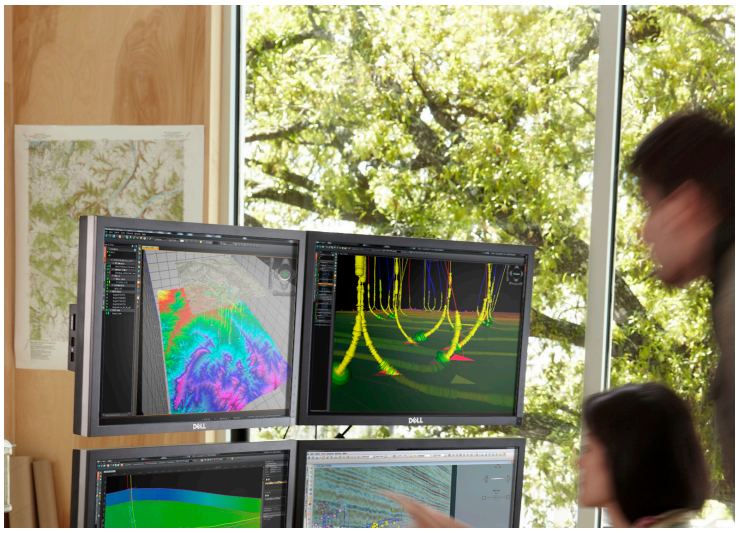
Peak performance & Smart Design

The Dell Precision R7610 offers the same power and scalability found in our highest-performing tower workstations with the convenience of a slim 2U design:

- Up to two Intel® Xeon® processor E5-2600 v2 family with up to 12 cores allow you to take on the toughest jobs.
- Achieve amazing graphics performance via 3 PCIe x16 225W double-wide slots supporting up to ultra-high-end workstation-class NVIDIA® Quadro, AMD FirePro™ or NVIDIA Tesla GPGPU cards.
- Multitask with up to 256GB[7] (up to 512GB[7] coming soon) of RAM in 16DIMM slots
- Maintain uptime with optional redundant power supplies.
- The integrated LSI SATA/SAS controller supports up to six 2.5" hard drives for maximum storage capability
- Maximize uptime with Dell's exclusive, patented Reliable Memory Technology Pro which eliminates virtually all memory errors.

Dell Precision Performance Optimizer

Optimize performance, update software and analyze usage all from one easy to use application



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Workstation Optimization

Imagine if your Dell Precision workstation could automatically adjust system settings to provide the maximum performance for a specific application. Dell Precision Performance Optimizer (DPPO), the world's first automated workstation performance tool, can do all that and more.

In the past getting great performance required extensive knowledge of both your system and your applications in order to wring the most out of your workstation. DPPO does this for you by providing:

- A software application that optimizes system settings
- Easy operation - includes pre-defined application profiles
- Automatically adjusts system settings such as CPU, memory, graphics, operating system, BIOS and drivers to help boost system performance

System Maintenance

In addition to system optimization Dell Precision Performance Optimizer helps keep your Dell workstation up-to-date with the System Maintenance tool. The System Maintenance tool provides:

- Notification when system updates are available
- Includes driver, BIOS, application and firmware updates
- Sorts available updates into three categories: critical, recommended and optional
- Helps download and install the updates you select

Track & Analyze

DPPO offers a third feature called Track & Analyze. This feature provides in-depth tools to track system utilization to help you understand how your system resources are being used. Features include:

- Track only the resources you want
- Track any or all of the following: battery, processor, storage, memory, thermals, network and fan usage
- User adjustable duration and frequency; allows you to track data only when your system is heavily used
- Chart data for easy readability
- Print or export data for further analysis

Dell UltraSharp™ monitors with PremierColor

Let your work come alive with Dell UltraSharp™ monitors with PremierColor.

Enjoy outstanding color accuracy, consistency, and richness with state-of-the-art Dell UltraSharp monitors with PremierColor. These monitors are perfect for power users like graphic designers, video and game designers, CAD/CAM designers and engineers, and photographers or anyone who requires high-performance monitors for precise, accurate, color-critical work.

Consistent, accurate and precise colors

With PremierColor, you get factory-tuned 99% AdobeRGB and 100% sRGB modes and impressive grayscale tracking, all calibrated with a deltaE of less than 2, as demonstrated by a factory-generated color calibration report.

Coverage of industry color standards

Enjoy color quality that supports major industry color standards such as NTSC, up to 99% AdobeRGB, and 100% sRGB — designed to meet the requirements of professional users involved in color-critical work.

User enabled color adjustments

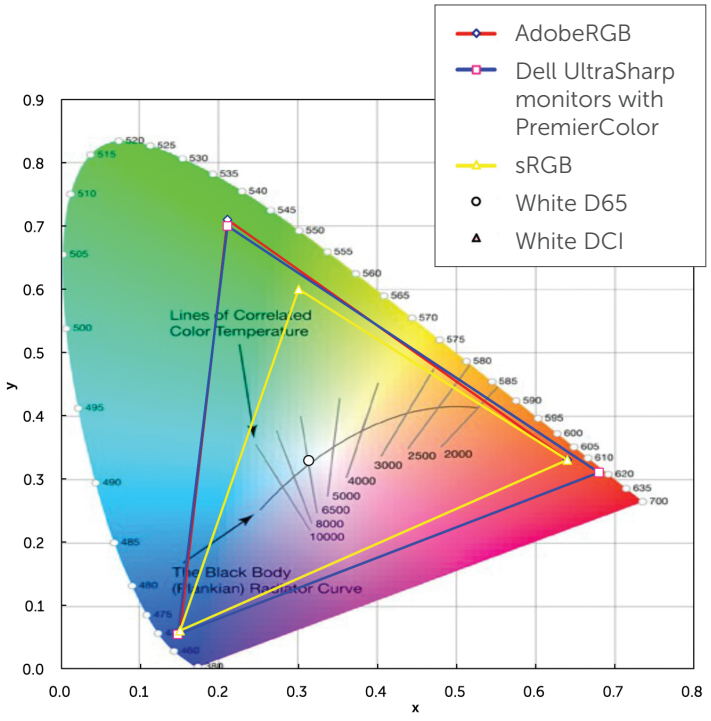
Use the Custom Color mode to adjust color to your liking, utilizing a wide range of color parameters such as RGBCMY saturation, RGBCMY hue, RGB gain and RGB offset. For an even more precise color calibration, Dell UltraSharp monitors with PremierColor each come with a 14-bit LUT (look-up table), which is user accessible via the Dell UltraSharp Color Calibration Solution software. Dell recommends the optional X-Rite i1Display Pro colorimeter[10] for generating custom color profiles.

Excellent color depth and color gamut

Enjoy a wide range of colors and color details with a color gamut of up to 120%[11] (typical, CIE 1976). And experience excellent color depth of up to 1.07 billion colors, distinct low grayscale tones and great detail in dark areas made possible by 12-bit internal processing.

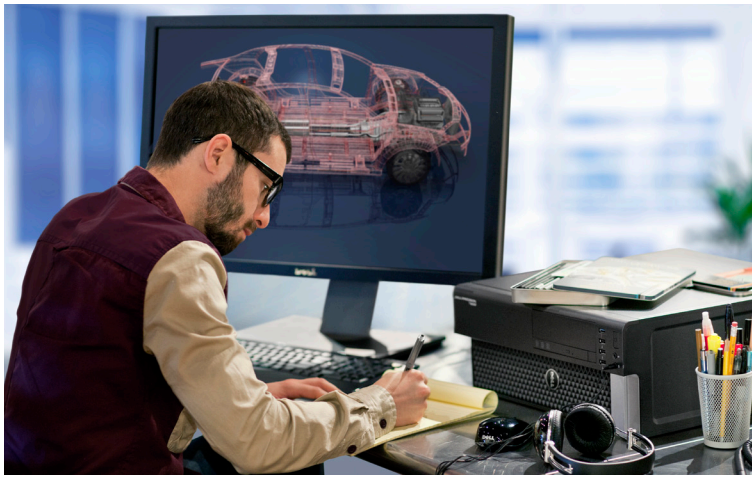
Key features

- Wide color gamut (AdobeRGB, xvYCC) of up to 120%[11]
- Amazing color depth of up to 1.07 billion colors
- High dynamic contrast ratio of 2 million:1
- Up to 2560 x 1600 resolution
- Height adjustable, swivel, tilt and pivot stands[12]
- 178° x 178° wide viewing angle
- Media card reader / HDMI / DisplayPort / DVI-D, 4 x USB 3.0[13] ports
- Premium Panel Guarantee[14]



Dell Essential Accessories & Peripherals

Complete your system with Dell mice, keyboards, projectors, carrying cases, docking stations, cables and more.



In the office or on-the-go, Dell's portfolio of recommended accessories are designed to complement your Dell system and enhance your experience, backed by world-class services and support.

Simple, convenient single source availability, backed by outstanding support.

A complete selection of recommended software and peripherals designed to work with your Dell Precision.

Innovative, industry-leading, award-winning products.

Dell's portfolio of recommended accessories are designed for the way you work

Whether you are at your desk, in a meeting room, or waiting for a plane, Dell accessories can help you get the most from your Dell Precision workstation.

Productivity

- Stay efficient and productive with Dell keyboards, mice and external drives.
- Built for managed environments, Dell network projectors deliver excellent resolution, brightness, and color with a variety of choices to fit your needs and budget.

Mobility

- Take your workstation on the go with Dell carrying cases, power solutions and cables.
- Ideal for the professional-on-the-go, Dell mobile projectors are small size and light weight, featuring multiple connectivity options for easy mobile projection.
- Easily set up a remote office space with Dell essential accessories such as docking stations, keyboards and mice.

Collaboration

- Communicate and share using headsets, docking solutions and adapters.
- Designed for small rooms, Dell short throw, interactive projectors help engage audiences and encourage collaboration with a rechargeable interactive pen for on- and off-screen interaction, and advanced connection options for enhanced projection.

Dell Precision™ Workstations

Not sure what you need?

Dell's easy-to-use Workstation Advisor can recommend a Dell Precision workstation based on your needs and the applications you use: **www.dell.com/wsadvisor**

[1] GB means 1 billion bytes and TB equals 1 trillion bytes; significant system memory may be used to support graphics, depending on system memory size and other factors.
[2] Available on select processors.
[3] For copy of Ltd Hardware Warranty, write Dell USA LP, Attn: Warranties, One Dell Way, Round Rock, TX 78682 or see www.dell.com/warranty
[4] Availability and terms of Dell Services vary by region. For more information, visit www.dell.com/servicedescriptions.
[5] Subject to wireless provider's broadband subscription and coverage area; additional charges apply.
[6] Requires removal of optical drive.
[7] A 64-bit OS is required to support 4GB or more of system memory. Max memory with Windows 7 is 192GB. Greater than 192GB requires RHEL 6.4 or Windows 8 64Bit
[8] Excludes external power brick and power cord. Dell follows the iNEMI definition of BFR/PVC free. For more information on Dell's policy and progress, please see our www.dell.com/environment site.
[9] EPEAT registration can vary by country. Please see www.epeat.net for the latest registration level and country participation.
[10] You can purchase the optional X-Rite i1Display Pro colorimeter at Dell.com (select countries) or from any X-Rite online reseller.
[11] Color gamut (typical) is based on CIE1976 (120% of NTSC) and CIE1931 (103%) test standards.)
[12] Available with Dell UltraSharp monitors that are 27" and smaller.
[13] USB 3.0 rate of data transfer can only be achieved with a computer that supports USB 3.0
[14] Dell UltraSharp™ monitors are backed with the Premium Panel Guarantee which will provide you with a replacement monitor should even one bright defective pixel be found on the screen during the Limited Hardware Warranty[3] period.

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